

TOP SECRET

25X1
PRIORITY

OUT 52846

24 FEB 1964

P 222134Z
FM NPICCNO
OPCENAFSSO USAFE
AFSSO PACAF
YWQLAZC/AFSSO SAC
YWQLAZC/AFSSO ACIC
YWQLAZC/AFSSO FTD
ZEM

Declassification Review by NGA/DoD

TOP SECRET

HFS

1964 FEB 22 2238Z 25X1

CIS

25X1

ACF

Grace (File)

25X1

CONTROL SYSTEM. SSOS PASS TO APPROPRIATE TCOS. CITE NPIC 1843.
THE FOLLOWING INFORMATION IS FROM THE NATIONAL PHOTOGRAPHIC
INTERPRETATION CENTER. SUBJECT: CAMERA INFORMATION FOR MISSIONS
1004-1.

A. THIS PHOTOGRAPHY INVOLVES THE USE OF EIGHT CAMERAS: TWO
MAIN CAMERAS, FOUR HORIZON CAMERAS, A STELLAR CAMERA AND AN
INDEX CAMERA.

B. OPERATIONAL FOCAL LENGTHS

	FWD UNIT (MM)	AFT UNIT (MM)
(1) MAIN LENS	609.602	609.602
(2) PORT HORIZON LENS	54.33	54.484
(3) STARBOARD HORIZON LENS	54.452	54.4845
(4) STELLAR CAMERA	84.1400	
(5) INDEX CAMERA	38.1992	

C. LENS DISTORTION (PIN CUSHION)

25X1

TOP SECRET

GROUP
Excluded from 25X1
downgrading and
declassification

-2-

(1) MAIN LENS (DEGREES)	FWD UNIT (MM)	AFT UNIT (MM)
3	.000	.001
2	.000	.000
1	.000	.000
0	.000	.000
359	.000	.001
358	.000	.002
357	.000	.003

(2) HORIZON CAMERAS	FWD		AFT	
	PORT	STARBOARD	PORT	STARBOARD
(RADIAL) 10 DEGREES MINUS .015MM	.009MM	MINUS .002MM	MINUS .004MM	
20 DEGREES MINUS .015MM	.012MM	MINUS .009MM	MINUS .002MM	
(TANGENTIAL) MAX. VECTOR				
SEE REMARKS MM	.004MM	.003MM	.005MM	

D. DEPRESSION ANGLES OF HORIZON CAMERAS RELATIVE TO NOMINAL
MAIN CAMERA.

	PORT	STARBOARD
FWD	15 DEGREES 20' 38"	15 DEGREES 18' 30"
AFT	14 DEGREES 53' 00"	15 DEGREES 45' 31"

E. CAMERA FILTER AND EXPOSURE DATA

	MAIN	HORIZON	STELLAR	INDEX
FILTER	WRATTEN 21	WRATTEN 25	NONE	WRATTEN 21
APERTURE	F 3.5	STARBOARD F8.0	F1.8	F4.5
		PORT F6.8		

-3-

SLIT WIDTH/EXPOSURE .250 INCHES 1/100 SEC 2 SEC 1/500 SEC
 FILM SO 132 SO 132 SO 102 SO 130

F. RESOLUTION CAPABILITIES

(1)	(L/MM AVG)	MAIN	PORT HORIZON	STARBOARD HORIZON
	FWD	270	167	162
	AFT	178	157	111

(2) INDEX (L/MM AWAR) 76

G. TIMING MARKS

FREQUENCY MARKS WILL APPEAR ON THE FILM AT A RATE OF 200
 CYCLES PER SECOND.

H. CALIBRATED ANGLES OF CAMERAS

(1) CALIBRATED CONVERGENT ANGLE OF MAIN CAMERAS 29 DEGREES
 54.37 MIN

(2) CALIBRATED ANGLE BETWEEN STELLAR AND INDEX CAMERAS
 89 DEGREES 55 MIN 58 SEC

(3) STELLAR (LOC. OF P. P.) SEE REMARKS

(4) INDEX (LOC. OF P. P.) SEE REMARKS

I. IMAGE MOTION COMPENSATION DATA

A. FMC PROGRAMMER REFERENCE LEVEL

(1) GROUND ANGULAR VELOCITY .0258 (RAD/SEC)

PASSES: USED ON ALL PASSES

B. FMC PROGRAMMER AMPLITUDE LEVEL

(1) GROUND ANGULAR VELOCITY .0143 (RAD/SEC)

-4-

PASSES: USED ON ALL PASSES

J. PROGRAM TIME DATA

PASS	CAMERA ON TIME (ZEBRA TIME)				PROGRAM ON TIME UP RAMP	PROGRAM DURATION
	DAY	HOUR	MIN	SEC	(SEC)	(SEC)
1D1	15	23	07	57	1866	50
3D1	16	02	05	12	1585	201
3D2	16	02	09	10	1823	82
4D1	16	03	34	48	1510	301
4D2	16	03	40	48	1869	135
5D1	16	05	08	01	1648	312
6D1	16	06	37	36	1571	292
6D2	16	06	45	16	2032	86
7D1	16	08	11	37	1759	107
7D2	16	08	14	21	1924	134
8D1	16	09	42	31	1762	187
9A1	16	10	54	13	613	49
9D1	16	11	13	39	1779	251
11A1	16	13	51	58	0	32
17D1	16	23	39	27	2932	162
19D1	17	02	18	29	1580	247
20D1	17	03	50	59	1682	213

-5-

20D2	17	03	56	18	2001	102
21D1	17	05	23	52	1808	180
21D2	17	05	27	29	2025	157
22D1	17	06	50	54	1582	74
22D2	17	06	52	49	1697	304
23D1	17	08	21	48	1570	337
24D1	17	09	55	55	1765	151
24D2	17	09	59	03	1952	160
25A1	17	11	08	11	653	49
30D1	17	19	08	47	2242	85
31D1	17	20	39	07	2212	99
33D1	17	23	28	20	1520	89
33D2	17	23	31	05	1686	138
33D3	17	23	44	17	2477	44
33D4	17	23	53	24	3025	162
34D1	18	01	00	46	1618	278
35D1	18	02	31	36	1619	313
36D1	18	04	07	50	1945	278
37D1	18	05	38	41	1947	88
37D2	18	05	43	41	2246	252
38D1	18	07	06	45	1784	310
39D1	18	08	35	56	1680	489

-6-

39A1	18	09	33	22	0	31
40D1	18	10	09	36	1853	393
40A1	18	11	04	10	0	32
41A1	18	11	21	54	743	49
47D1	18	20	52	37	2298	84
49D1	18	23	45	12	1763	97

NOTE: DATA IS THE SAME FOR BOTH THE MASTER AND SLAVE UNITS.

K. TIME CORRELATION (MILLISECONDS)

PASS	SYSTEM TIME	CLOCK TIME	DIFFERENCE
09	39172.397	213296.784	
16	78973.398	253097.795	.010
25	40012.892	300537.280	MINUS .009
31	74356.440	334880.840	.012
41	40835.655	387760.055	.000
47	75164.251	422088.658	.007

L. REMARKS: FOLLOWING MISSING ITEMS WILL BE FURNISHED WHEN AVAILABLE:

PARA C - TANGENTIAL MAX. VECTOR (MASTER PORT HORIZON)

PARA H - ITEMS 3 AND 4 STELLAR AND INDEX (LOC OF P. P.)

S/I DATA FOR MISSION 1004-2

SCP-1

T O P S E C R E T

--END OF MESSAGE--

25X1